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Final author draft for Cities & Health

ORIGINAL RESEARCH

Cities and health: an evolving global conversation

Marcus Grant, Caroline Brown, Waleska T. Caiaffa, Anthony Capon, Jason Corburn, Chris Coutts, Carlos J. Crespo, Geraint Ellis, George Ferguson, Colin Fudge, Trevor Hancock, Roderick J. Lawrence, Mark J. Nieuwenhuijsen, Tolu Oni, Susan Thompson, Cor Wagenaar and Catharine Ward Thompson

Abstract

The Cities and Health journal sees its launch in 2017. Looking back over half a century of growth and global expansion in economic activity, although there have been societal benefits, negative impacts are starting to take their toll on planetary resources and human health. As we enter what is being termed The Anthropocene, the city is becoming the preferred habitat for humanity. The imprint of city lifestyles, in terms of both resource use and waste, is found across the globe, threatening the ecosystem services that support our health. In cities themselves, due to risks and challenges to health, we are witnessing a rise in non-communicable disease, twinned with infectious disease for the many who live increasingly in informal or slum urban development. High levels of health inequity are found within urban populations. The resultant health problems are placing increasing strain on health services, with pressure only set to increase due to continuing urbanization and ageing populations. Evidence increasingly demonstrates that many aspects of city and neighbourhood form, urban and transport design, and residential environments play an important role in mediating health and health equity outcomes. The new journal Cities & Health is being launched to support political, academic and technical leadership and transdisciplinarity in this field. For this endeavor we will need to re-examine the nature of evidence required before we act; to explore how academics, policy-makers, practitioners and communities can best collaborate using the city as a laboratory for change; and to develop capacity building for healthier place-making at professional and community level.

Cities and health: an evolving global conversation

Marcus Grant, Caroline Brown, Waleska T. Caiaffa, Anthony Capon, Jason Corburn, Chris Coutts, Carlos J. Crespo, Geraint Ellis, George Ferguson, Colin Fudge, Trevor Hancock, Roderick J. Lawrence, Mark J. Nieuwenhuijsen, Tolu Onp, Susan Thompson, Cor Wagenaar and Catharine Ward Thompson

The Cities and Health journal sees its launch in 2017. The last half-century has been remarkable in many ways. Over that period the direction of travel for what many see as mainstream human development and culture is leading to global concern (WEF 2017), and in many quarters - alarm. Attention is specifically alighting on two issues. First humanity's relationship to, and impact on, its global habitat. Second, the issue of humanity's relationship to itself; a widening gap, more correctly a gulf, between those who have political and financial agency and those who do not.

Fifty years ago the impacts from what were seen as positive aspects of economic development, such as the 'age of mass consumption', lay largely in the future (Frank 1970). World population was 3.3bn with 36% living in cities. We were some ten years before Habitat I and 20 years before the launch of the WHO Healthy Cities programme. Initially, these 50 years saw high-income countries enjoying a period of both peace and economic expansion. The rest of the world was less fortunate with many left in poverty, but even here there was an extended period of decolonisation and self-determination. In health, people from countries at all income levels benefited from advances in water and sanitation, nutrition and vaccination, and relatively easily won health outcomes through developments in antibiotics, diagnostics and treatments.

Seeds of change

But the seeds of what has now led to a profound change were being sown, culminating in major disruptions in what was seen as the certainty of continual societal progress and relative stability. Throughout the world, local and national economies became increasingly absorbed into an unprecedented and fluid global system. The mantra of economic growth spread as a common aim for peoples and Governments across this expanding global system, in the belief that this would be key to tackling ill health, poverty, habitat destruction and just about any other problem we could throw at it. However, this 'Great Acceleration' of a resource intensive form of global economic growth allowed human induced flows of materials and energy to rival, and then overtake, those of natural systems, resulting in impacts so profound that we now refer to the modern age as The Anthropocene (Steffen, Crutzen & McNeill 2007).

Indicators of the negative consequences of the global economic system began to be translated into international concerns around the loss of rainforest, pollution

of rivers and seas, ocean acidification, ozone depletion, desertification, species extinctions – and of course, climate change. These led to the establishment of ‘sustainable development’ as the normative goal for accommodating economic growth with the conservation of natural and social systems (Brundtland 1987), and then to the first Earth Summit in 1992, initiating global conventions on biodiversity and climate change.

Turning to health

The concept of sustainability underlines the physical limitation of global ecosystems, and highlights the need to utilise science, technology and policy to tackle these great challenges. Armed with concepts such as a ‘safe operating space for humanity’ (Rockström et al. 2009), ‘planetary boundaries’ (Steffen et al., 2015) and ‘ecosystem services’ (MEA 2005) we have some valuable tools. We know that loss of biodiversity presents us with many health challenges (Romanelli 2015). However, we now are faced, in many cases, with a corollary to these environmental concerns; challenges and risks for human population health (Hancock, Spady and Soskolne, 2015; Whitmee et al, 2015), for example, the multiple threats to health posed by climate change (WHO UNFCCC 2015).

However, whilst keeping sustainability centrally in our sights, it must be twinned with the concern for human health. In cities in high-income countries we have seen the rise of so-called ‘intractable’ non-communicable diseases, as well as injuries (intentional and unintentional) and growing rates of mental health and substance abuse issues, placing an increasing demand on health systems (Wang et al. 2016). We are now seeing these same conditions increasing in cities in middle and low-income countries, where urbanization and urban growth are dramatically restructuring the nature of cities. Here non-communicable diseases occur alongside chronic infectious diseases such as HIV and basic, acute infectious diseases arising from poor sanitation in informal settlements surrounding these cities: multi-morbidity. There are also, yet to be fully explored, epidemiological and immunological interactions between communicable and non-communicable diseases, and urban, particularly informal, exposures (Oni et al. 2016a). Increasingly we are witnessing the wealthy and the poor sharing certain common spaces in the city but largely housed apart in apartheid spaces as if there were socially invisible – but sometimes all too physically visible and real – with walled-off estates inside cities (Ezeh A et al, 2017; Lilford RJ et al, 2017).

The most significant concern here is of rising social and economic inequality on health. As the WHO Commission on the Social Determinants of Health (WHO 2008a) noted, “Social injustice is killing people on a grand scale” (p26); which is acutely apparent in cities (WHO and UN Habitat, 2010). In some low-income countries, the majority of urban dwellers live in informal settlements that lack access to basic services or public amenities, expose residents to greater health risk, and where health-care systems are unable to provide affordable or comprehensive cover (Oni et al. 2016a p722, Lim et al. 2016). Therefore we do

not just need to provide a 'safe space' for humanity, but also a 'just space' (Raworth, 2012).

Where we are now?

So here we are in 2017: World population stands close to 7.5bn and almost 55% of people now live in cities. Projections indicate that total city population will rise from its current 4bn to over 6bn (i.e. up to 66%) by 2050 (UN 2015a). Fifty years ago there were only three mega-cities, those with more than 10m inhabitants; Tokyo, Osaka and New York-Newark. Today there are 28 megacities and by 2030 there will be 41 (UN 2015a). Much of the predicted urban population growth will be informal in nature. Most will be accommodated in the fringes and interstices of small and medium-sized cities in middle and low-income countries (Laros & Jones 2014).

The 'urban' is truly now the predominant habitat for humanity. Villages, towns, cities and mega-cities represent the phenomenal scale of collective human colony creation, ever-larger manifestations of created human habitat; some is planned and designed, but much is informal and unmanaged. We need to involve ourselves with an innovative city futures agenda, so as not to replicate and further embed our problems.

In the dominant globalized system, capital and economic activity has become detached from place. Divorced from locality, this has allowed positive impacts for health and well-being to become increasingly concentrated and restricted to small pockets of the world population. Detrimental impacts too can be found in a concentrated form, in modern ghettos, slums and informal settlements. Rosy looking health statistics at national or city level can hide the effect of this socioeconomic inequality within urban areas (Rydin et al. 2012).

At a regional level, fewer cities retain the once essential symbiotic connection to their surrounding 'hinterland'. Resources are drawn from across the globe and the footprint of waste from city consumption is widely distributed across all terrestrial and marine biomes. As an example, persistent human-made pollutants are damaging the health of people living well away from all industrial sources, such as among the Inuit (Singh et al. 2013), and have also been found in the deepest of ocean trenches (Jamieson et al 2017).

Cities themselves are hotspots for high levels of man-made air pollution, noise and heat island effects, whilst also lacking green space and support for physical activity (Nieuwenhuijsen 2016). Ineffective or absent urban and transport planning creates and exacerbates the risks and challenges to health (Grant and Braubach 2010; Barton 2009), as does a lack of attention in strategic city planning of the essential links between spatial planning and available modal transport options for citizens (Frank, Giles-Corti & Ewing 2016). A recent study estimated that 20% of mortality may be premature because of poor urban management and pollution in Barcelona (Mueller et al 2017). Novel concepts such as car-free cities have been proposed as a possible solution but may need a

long time to be accepted and implemented (Nieuwenhuijsen and Khreis 2016), though there are many examples now of ‘car-free’ housing development in high density cities. The concepts of ‘big data’ and ‘smart cities’ also hold some potential for securing health improvements. But in the short term, breaking down the silos between urban planning, transport planning, environment and public health is needed to address the severe and avoidable health impacts (Nieuwenhuijsen 2016) and reduce health inequity.

In addition to the increasing urbanization of populations across the globe, we are also experiencing a global ageing of the population; a trend that is accelerating. By 2050, the global population aged 60 years or over is projected to more than double that of 2015, reaching nearly 2.1 billion, and the number of people aged 80 and over is growing even faster (UN, 2015b). This is, of course, a success story for human health but the resulting demographic profile, where the ageing population will increasingly exceed that of children and adolescents, has many implications for the planning, design and management of our cities and the demands on its infrastructure and services, not to mention the social structures that frame and sustain urban living. There are also marked social inequalities in life expectancy, and critically in disability-free life expectancy, in later life (Jagger and Robine 2011).

The good news is that ‘green infrastructure’, making its presence felt at an array of scales, has a sweeping influence on the myriad ecosystem services essential to health, including mortality, mental health and birth outcomes (Ward Thompson et al., 2012; Coutts and Hahn 2015, WHO 2016a, Nieuwenhuijsen et al 2017). Smart design that incorporates urban nature can build in features that can promote health, such as better food and food growing environments, urban greening, flood risk protection, micro-climate amelioration and activity supporting greenways (Barton et al 2010).

We have the ability to control our urban habitat; and human and planetary health needs to be at the forefront of city design.

Urban research and public health

The growing concerns over health, lifestyles and the built environment are reflected in an accelerating pace of research within earlier discourse (such as Dannenberg, et al. 2003; Jackson 2003; Fudge 2003) and more recent broad-ranging contributions (Barton et al. 2015). An ongoing re-engagement between urban planning and public health is being acknowledged and even celebrated (Jackson, Dannenberg, and Frumkin 2013). New research outcomes and national funding programmes are emerging. Examples include the NIHR Public Health programme in the UK and research funded by the Prevention and Public Health Fund and Robert Wood Johnson Foundation in the US. To this we can now add the international dimension through the Wellcome Trust’s ‘Our Planet, Our Health’ programme. Recently we have also seen a re-alignment of global conversations such as Habitat III and the Sustainable Development Goals in an attempt to concentrate our focus on people’s needs and cities. Happily, at least in

some quarters, we are now seeing challenges to the discourse of economic growth as a '*salve elixir*', a universal balm for any problem.

Public health too is starting to grapple with a new reality. Modernity itself contains elements that are 'potentially harmful to health and well-being and inimical to social equity' yet is ill equipped to find the solutions (Hanlon et al 2012 p313). This is the context in which ecological public health, as a theory, a movement and a body of practice has been long emerging (Chu & Simpson, Rob 1994; Lang & Rayner 2012). Public health needs to add a fourth arm to its traditional remit of 'promoting and protecting health and well-being, preventing ill-health and prolonging life': it needs to actually **create health**. Public health needs to explore and understand how we can best create the conditions for good health and ensure humans can flourish. Urban designers are grappling with a similar concept when they start to define their term 'liveability'. Importantly, we also need to ensure equitable access to such health-creating conditions. We need to develop new communities of practice to grapple with the complex issues whose causes lie beyond the traditional remit of the health sector. We will need the knowledge, drive and competencies from many sectors to join together for this fourth arm to protect, promote and create urban health.

Cities matter

As the world confronts multiple crises for global health, cities present themselves as the most fruitful of loci for rethinking approaches to disease and injury prevention whilst simultaneously investing in the conditions that create health. Cities matter. Arguably whilst nation states prevaricate and postulate on the global stage, cities have been getting on with it (Acuto 2013). Many are showing leadership and joining together to take action in areas such as climate change, sustainability and resilience. For example, the WHO Healthy Cities initiative is more than 30 years old and exists in over 1,000 cities worldwide, as documented in a very recent comprehensive book (de Leeuw and Simos, 2017). The healthy city initiative highlights the recognition that a 'place-based' approach to health is needed, and indeed the network has a long-standing programme of using urban planning for health (Grant 2015). Outside of the formal 'healthy city' initiative, the WHO has recognised the merit of city-scale work through the work associated with publications such as its Guide to Age-Friendly Cities (2007), which considers the global needs of an ageing urban society and Urban Heart (WHO 2010), an urban health equity tool.

With its presence at, and input to, both the Paris Agreement on Climate Change and the UN-HABITAT III conference held in Quito in late 2016, the WHO is showing an accelerated interest in ensuring that health is embedded within the emerging new urban agenda (WHO 2016b, WHO 2017).

Over the next decade we will be able to judge the degree to which Sustainable Development Goal 11 'Sustainable cities and communities', with its exclusive urban focus, can achieve co-benefits with Sustainable Development Goal 3 'Good health and well-being', with its thirteen health targets. There is a risk that

without the necessary trans-disciplinary understanding (Lawrence 2015), the mesmerizing draw of reductionism could stunt the emergence of mutually reinforcing solutions (Caprotti et al. 2017). However, there are rich prizes to be won for health and health system viability if research and practice join together to create healthier urban habitats, especially in the rapidly urbanizing areas of low and middle-income countries. There will be additional rewards if we can show the United Nations how to take effective action in urban areas, based on its decision to tackle non-communicable diseases from a human rights perspective.

City governance and leadership

If cities matter, then city leadership is also crucial for health. This includes leadership for city regions, which respects the ecological and anthropological hinterlands of urban areas. On the international stage, mayors and city leaders are joining networks of shared interest, including the C40 Cities, 100 Resilient Cities and networks initiated by Bloomberg Philanthropies that allow them to make commitments and progress that is not dependent on national partners.

Liveability a building block of the 'good' city, starts in the 'neighbourhood', that iconic urban component; where people and place come together. It exemplifies the seat of health and place (Barton, Grant and Guise 2010). The neighbourhood is people-centered; it is resonant with local cultural, social, functional and administrative overtones. For young and old people, people with mobility impairments and those tied to the home for any number of reasons, the neighbourhood is their habitat within the city (Brookfield et al., 2017). Better attention to the design, in new build and retrofit, of neighbourhood form and detail (Ward Thompson, 2002; Sugiyama et al., 2009; Ward Thompson et al. 2014) and of the neighbourhood as a building block to city functioning, may well hold the key to urban health (Barton, Grant and Guise 2010). In terms of health equity, easy access to, and engagement with, good quality local green space and natural environments in deprived urban locations can offer support for marginalized populations in terms of place identity, wellbeing and quality of life (Ward Thompson et al., 2016; Ward Thompson et al. 2013).

It is essential that we develop effective and innovative models for place-based leadership at both city and neighbourhood level and better understand the drivers and conditions for leadership in healthier place-making. This should include recognising the role not just of strong political leadership, but also leadership from the community, from health professions and key sectors such as the development industry and housing (Hambleton 2014). The economics involved in creating place need challenging too. We can no longer afford to build places that increase the dependence of the residents on health service and social care provision over the whole of their life-course (Curl et al., 2016).

There are glimmers of fresh thinking in the economics of place-making, and new financial models to incentivise healthier place-making. The cost to the health budget of building places that undermine health is starting to be discussed (Grant and Drane 2017; Garrett & Burris 2015). Other examples include the fact

that there have been striking positive health outcomes associated with participatory budgeting in Brazil (Vlahov & Caiaffa 2013). New ways of working will need encouragement and support from national governments (Newton and Newman 2015). The so-called urban advantage, the health benefits of living in urban as opposed to rural areas, 'has to be actively created and maintained through policy interventions' (Rydin et al. 2012 p2079). The call for a 'health in all policies' approach offers a potential framework for tackling such questions (de Leeuw et al. 2014; de Leeuw Clavier & Peters 2015).

What's to be done?

We believe that research in the fields of cities and population health, health science, health policy and health funding is not yet fulfilling its true potential. Convention, risk-aversion and 'business as usual', inherent in university-based research and city governance, has allowed contradictory and short-term approaches to dominate. For example, if we know there are critical spatial determinants to disease and wellbeing, then why don't we adopt those 'who create place' into the wider public health workforce by ensuring relevant training in those professions? Similarly, if we know that prolonging life increases life-years 'with disability' for economically marginalized groups, then why isn't health-adjusted life expectancy the universal indicator of city function? Furthermore, if we know that health and social care budgets are under strain, then why can't we shift our gaze away from continually evaluating and developing new treatment interventions and towards creating environments that support wellbeing across the population?

These and other complexities involved with understanding and acting on urban health remain a key challenge for city leaders and for all those involved in public health and city planning. The spatial determinants of health have been communicated in a form readily assimilated by those who plan and design the built environment (Barton & Grant 2006), yet health impact appraisal of spatial policy and plans as a design tool for healthier places is not accepted as routine business. We must learn to work with this complexity, building collaborative tools and processes for 'city impact' and implementation that go beyond using just traditional 'bread and butter' concepts of disease pathways, causal chains and treatment regimes (Morris et al, 2006; Grant & Barton 2013). In the world of cities and health we increasingly find ourselves immersed in 'disease pictures' (Rosenberg 2002) and causal webs (Russo 2011) and multi-causality (Krieger 1994) where unintended consequences, natural experiments, 'confounders and contamination' abound. Built environment designers with their creative processes can not necessarily provide the perfect solution, but they are trained in studio-based research methods that enable them to take a wicked problem and distill and communicate the 'least wrong' solution (Alexiou & Zamenopoulos 2008; Portugali & Stolk 2016). A spatially aware public health praxis will need those skills.

We will need to move away from the risk-averse evidence hierarchy used in public health with its medical provenance, and agree on a new approach to evidence that supports creative city change and experimentation. The city is a multi-causal, complex adaptive system. For city-level work we will have to stop looking for randomized controlled trial evidence to see, for example, whether an obesity intervention works; but instead ask, including of actors and stakeholders *in vivo*, whether it contributes to the observed change or hinders it (Rutter & Glonti 2016). Inherent in the medical model too is an inevitable innovation lag from science to policy, from policy to action (WHO 2008b). This understandably careful route to progress, when combined with entrenched interests outside the health sector, can put an unnecessary brake on change, when we already know in urban design what not to do. With the urgency and universal nature of the city-health problem, we need new ways of influencing policy makers through communication and dialogue across many actors and institutions in society. It took 50 years from proof that smoking caused cancer (Doll & Hill 1950) until the WHO Framework Convention on Tobacco Control. Cities can be our laboratories for change, but not if we have to wait 50 years from conclusive dose-response evidence for cycling and walking (Kelly et al. 2014) and health impact of active transport (Mueller et al. 2015) to see a transformation in mainstream city design.

For this to happen the health sector will have to create the enabling structures and mechanisms for intersectoral action. Investing in environmental interventions pays off; it will promote health and health equity and can reduce the economic burden on the health sector through a reduction in the transfer of hidden costs from other sectors (Prüss-Ustün, 2016).

Transdisciplinary inquiry provides us with a new way of doing and applying 'science', developing a new collaborative field for cities and health. The conceptual and institutional barriers to transdisciplinary inquiry in this emergent field are considerable, involving not just formal education and personal and institutional motives in academic institutions but also funding agencies, and policy and budgetary silos (Lawrence 2015). Nevertheless, with potentially significant outcomes for population health and health service viability, there are strong incentives here for developing transdisciplinary processes. Taking just two relevant examples; the value of transdisciplinary working for urban population health is discussed by Lawrence (2010) in relation to housing, and by Lake, Townshend and Alvanides (2010) with regard to obesity.

This transdisciplinary science will need to harness the inspiring innovation and change that leading cities are now demonstrating. With innovation comes risk, but our research protocols rarely properly assess the risk of harm that results from doing nothing, or waiting decades until verifiable 'proof' emerges of the benefits of certain interventions. Indeed, if we never try, we will never know. We need to go beyond the 'natural experiment' (MRC 2006) and recognize the emergence of hybrid creative design-led innovations for public health (Gehl 2013). Instead of dismissing these as one-off 'case studies', we should consider them as potential pioneer projects and attempt to assess the conditions from

which they emerged, the scope for replicability and the potential for longitudinal multi-city trials.

A key aspiration for this journal is to support knowledge governance and the co-production of knowledge in this field.

In many cities infectious diseases remain an important cause of death in urban areas; we know how to tackle these, but we don't apply that knowledge well. Some cities have tested and found solutions, but don't know how to effectively disseminate successful responses. The built environment disciplines and professions; urban design, transport, landscape design and architecture with their related technical services all have important roles to play in spreading solutions, bringing them to the market and in some cases even industrialising the implementation. Whilst technological knowledge may be transferred relatively easily, we also have a lot to learn about the softer aspects of successful health initiatives, such as how to create effective collaborations, drivers, leaders and incentives.

We know that public health policies should incorporate interventions that address urban physical and social environments in addition to policies focused on individuals (Rodrigues et al. 2015). Focusing only on treatment interventions for individuals in cities is bound to fail because individuals will be forced to go back into the urban living and working conditions that may have made them sick in the first place (Corburn 2015). We need to move away from thinking solely about new services and treatments but place a renewed emphasis on city governance for health; harnessing urban design and transport planning as a powerful strategies for improvements in population health on a permanent basis (Sallis et al. 2016).

This journal will . . .

We have taken all these issues as an inspiration for why a new Journal such as this is required. *Cities and Health* will examine the complexities and difficulties of urban health. We believe that good intentions and idealism are not a sufficient basis for real advances in our understanding and practice. There is a need to critically evaluate theory and assess and learn in situ the aspects of practical initiatives that have worked well, and those that have not.

We need not only to 'Let researchers try new paths' (Oni et al. 2016b) but to use this journal to forge those paths. We would like to hear from those working in new ways and we aim to give a new space for new voices. Let's talk about the role of a whole range of critical urban actors, such as entrepreneurs: social entrepreneurs, thought entrepreneurs and policy entrepreneurs for health creation in cities.

There will be critics who argue that the quest of seeking new knowledge through bringing together population health and urban studies is fundamentally

misguided. For many, the established and closely defended working methods in health research are seen as incompatible with the world of urban management, development financing, city leadership and built environment design. On the one hand we have an empirically-led science concerned mainly with validating repeatable interventions in a closed system; and on the other, a practice-based activity, that is driven by creativity, design and community engagement, tempered by politics and the market, which through a combination of actors influences place – more an ‘art’ than a ‘science’.

It is the contention here that efforts directed towards bringing these two realms closer together are vital for human health; and that this endeavour needs to be supported by sound research, good communication and informed debate. One must also ask what is the alternative to developing a robust and integrated spatial approach to creating health in the city?

However, while we all want to support health, we must be aware of the silos in which many of these debates occur. While those directly involved with public urban health believe they are already addressing these issues, there is still inadequate collaboration with the wide range of actors who together create and manage our urban living environment. And planners, urban designers, architects and city leaders already use the words ‘making places for people’, yet all too rarely interact with those whose job it is to intimately understand the characteristics of local population need. There will be inherent problems as long as these worlds remain in silos and key solutions lie in trans-disciplinarity (Lawrence & Despres 2004). It is imperative that city planning starts to be practiced as preventive medicine (Corburn, 2015), this means blending a relational and systems approach to urban health with innovative city leadership. We will need to act with imperfect evidence but to track progress, adapt interventions and manage risk, as the preferred alternative to not acting at all. We already know enough to act.

This will require disciplines to find common language, to develop a new professional health literacy as they apply a health lens to urban policy and place-making in the city. This Journal provides the space for a sharing of purpose, passion and product in the endeavour for healthy city futures, because the battle for health for all and sustainable human development will be fought and won or lost, to a large extent, in the cities of the world.

Notes on contributors

The authors represent the entire membership of the Editorial Board of Cities & Health at the date of article submission.

References

- Acuto, M., 2013. City leadership in global governance. *Global Governance: A Review of Multilateralism and International Organizations*, 19(3), pp.481-498 .
- Alexiou, K. and Zamenopoulos, T., 2008. Design as a social process: a complex systems perspective. *Futures*, 40(6), pp.586-595.

- Barton, H., 2009. Land use planning and health and well-being. *Land Use Policy*, 26 (Supple). pp. 115-123.
- Barton, H. and Grant, M., 2006. A health map for the local human habitat. *The Journal for the Royal Society for the Promotion of Health*, 126(6), pp.252-253.
- Barton, H., Grant, M. and Guise, R. , 2010. *Shaping Neighbourhoods: For Local health and Global Sustainability*. 2nd. Oxford: Routledge.
- Barton, H., Grant, M. and Guise, R., 2010. *Shaping neighbourhoods: for local health and global sustainability*. Routledge.
- Barton, H., Thompson, S., Burgess, S. and Grant, M., (eds), 2015. *The Routledge Handbook of planning for Health and Well-Being*, New York: Routledge.
- Brookfield, K., Ward Thompson, C. & Scott, I., 2017. The uncommon impact of common environmental details on walking in older adults. *International Journal of Environmental Research and Public Health*, 14(2): 10.3390/ijerph14020190
- Brundtland, G. H. ,1987. *Report of the World Commission on environment and development:" our common future."*. United Nations.
- Caprotti, F., Cowley, R., Datta, A., Broto, V.C., Gao, E., Georgeson, L., Herrick, C., Odendaal, N. and Joss, S., 2017. The New Urban Agenda: key opportunities and challenges for policy and practice. *Urban Research & Practice*.
- Chu, Cordia and Simpson, Rob (eds.), 1994. *Ecological Public Health: From Vision to Practice*. Brisbane: Faculty of Environmental Sciences, Griffith University and Toronto: Centre for Health Promotion, University of Toronto
- Corburn, J., 2015. City planning as preventive medicine. *Preventive medicine*, 77, pp.48-51.
- Coutts, C. and Hahn, M., 2015. Green infrastructure, ecosystem services, and human health. *International journal of environmental research and public health*, 12(8), pp.9768-9798.
- Curl, A., Ward Thompson, C., Aspinall, P., 2016. Outdoor Environmental Supportiveness and Older People's Quality of Life: A Personal Projects Approach. *Journal of Housing for the Elderly* 30: 1-16, doi: 10.1080/02763893.2015.1087925
- Dannenberg, A.L., Jackson, R.J., Frumkin, H., Schieber, R.A., Pratt, M., Kochtitzky, C. and Tilson, H.H., 2003. The impact of community design and land-use choices on public health: a scientific research agenda. *American journal of public health*, 93(9), pp.1500-1508. Doll, R. and Hill, A.B., 1950. Smoking and carcinoma of the lung. *British medical journal*, 2(4682), p.739.
- de Leeuw, E. and Peters, D., 2015. Nine questions to guide development and implementation of Health in All Policies. *Health Promotion International*, 30(4), 987–97. <http://doi.org/10.1093/heapro/dau034>
- de Leeuw, E. and Simos, J., 2017. *Healthy Cities – The Theory, Policy, and Practice of Value-Based Urban Health Planning* New York: Springer.
- de Leeuw, E., Clavier, C. and Breton, E., 2014. Health policy—why research it and how: health political science. *Health Research Policy and Systems*, 12(1), p.55.

- Ezeh A, Oyebode O, Satterthwaite D, Chen YF, Ndugwa R, Sartori J, Mberu B, Melendez-Torres GJ, Haregu T, Watson SI, Caiaffa WT, Capon A, Lilford RJ., 2017. The history, geography, and sociology of slums and the health problems of people who live in slums. *Lancet*. Feb 4; 389(10068):547-558.
- Frank L Giles-Corti B Ewing R., 2016. The influence of the built environment on transport and health *Journal of Transport & Health*, 3, 4, 423–425.
- Frank, A.G., 1970. The Wealth and Poverty of Nations: Even Heretics Remain Bound by Traditional Thought. *Economic and Political Weekly*, pp.1177-1184.
- Fudge, C., 2003. Health and sustainability gains from urban regeneration and development. *Healthy Cities and Urban Policy Research*, p.41.
- Garrett, H., & Burris, S., 2015. *Briefing Paper: Homes and ageing in England*. Watford: BRE. Retrieved from <http://www.bre.co.uk/healthbriefings>
- Gehl, J., 2013. *Cities for people*. Washington: Island press.
- Grant, M. & Barton, H., 2013. No weighting for healthy sustainable local planning: evaluation of a participatory appraisal tool for rationality and inclusivity. *Journal of Environmental Planning and Management*, 56 (9). pp. 1267-1289.
- Grant, M. , 2015. European healthy city network phase V: Patterns emerging for healthy urban planning. *Health Promotion International*, 30 (S1). i54-i70.
- Grant, M. & Braubach, M., 2010. Evidence review on the spatial determinants of health in urban settings. In: (2010) Annex 2 in *Urban Planning, Environment and Health: From Evidence to Policy Action*. Meeting Report. Copenhagen: WHO Regional Office for Europe, pp. 22-97. Available from: <http://eprints.uwe.ac.uk/12071>.
- Grant, M. & Drane, M., 2017. *Developing Healthy Neighbourhoods: Build-in health or build more hospitals*. Pub: Bristol Health Partners and IBI Group. Accessed 17.03.17 [Available on-line from: <http://www.bristolhealthpartners.org.uk/latest-news/2017/03/09/build-in-health-or-build-more-hospitals-event-success/815>]
- Hambleton, R., 2014. *Leading the inclusive city: Place-based innovation for a bounded planet*. Policy Press.
- Hancock T., Spady, D.W. & Soskolne C.L. (Eds.), 2015. *Global Change and Public Health: Addressing the Ecological Determinants of Health: The Report in Brief*. Available at: <http://www.cpha.ca/uploads/policy/edh-brief.pdf>
- Hanlon, P., Carlisle, S., Hannah, M., Lyon, A. and Reilly, D., 2012. A perspective on the future public health: an integrative and ecological framework. *Perspectives in Public Health*, 132(6), pp.313-319.
- Jackson, R. J., 2003. The Impact of the Built Environment on Health: An Emerging Field. *American Journal of Public Health*, Vol. 93, No. 9, pp. 1382-1384.
- Jackson, R.J., Dannenberg, A.L. and Frumkin, H., 2013. Health and the built environment: 10 years after. *American journal of public health*, 103(9), pp.1542-1544
- Jagger, C. and Robine, J.M., 2011. Healthy life expectancy. In *International handbook of adult mortality* (pp. 551-568). Springer Netherlands.
- Kelly, P., Kahlmeier, S., Götschi, T., Orsini, N., Richards, J., Roberts, N., Scarborough, P. and Foster, C., 2014. Systematic review and meta-analysis of reduction in all-cause

- mortality from walking and cycling and shape of dose response relationship. *International Journal of Behavioral Nutrition and Physical Activity*, 11(1), p.132.
- Krieger, N., 1994. Epidemiology and the web of causation: has anyone seen the spider?. *Social science & medicine*, 39(7), pp.887-903.
- Lake, A.A., Townshend, T.G. and Albanides, S., 2010. *Obesogenic environments: complexities, perceptions and objective measures*. Wiley-Blackwell.
- Lang, T. and Rayner, G., 2012. Ecological public health: The 21st century's big idea?. *BMJ*, 345(7872), pp.17-20.
- Laros, M. and Jones, F., 2014. *The state of African cities 2014: re-imagining sustainable urban transitions*. Nairobi: UN-Habitat.
- Lawrence, R. J., 2015. Advances in transdisciplinarity: epistemologies, methodologies and processes. *Futures*, 65 (1) pp.1-9.
- Lawrence, R.J., 2010. Beyond disciplinary confinement to imaginative transdisciplinarity. In V. Brown, J. Harris & J. Russell (Eds) *Tackling wicked problems through transdisciplinary imagination*, Earthscan, London, pp.16-30.
- Lawrence, R.J. and Despres, C., 2004. Futures of Transdisciplinarity. *Futures*, 36(4), pp.397-405.
- Lilford, R.J., Oyebode, O., Satterthwaite, D., Melendez-Torres, G.J., Chen, Y.F., Mberu, B., Watson, S.I., Sartori, J., Ndugwa, R., Caiaffa, W. and Haregu, T., 2017. Improving the health and welfare of people who live in slums. *The Lancet*. 389: 10068: 559-570.
- Lim, S.S., Allen, K., Bhutta, Z.A., Dandona, L., Forouzanfar, M.H., Fullman, N., Gething, P.W., Goldberg, E.M., Hay, S.I., Holmberg, M. and Kinfu, Y., 2016. Measuring the health-related Sustainable Development Goals in 188 countries: a baseline analysis from the Global Burden of Disease Study 2015. *The Lancet*, 388(10053), pp.1813-1850.
- Millennium Ecosystem Assessment, 2005. *Ecosystems and Human Well-being: Synthesis*. Island Press, Washington, DC.
- Morris, G. P., Beck, S. A., Hanlon, P. and Robertson, R., 2006. Getting strategic about the environment and health. *Public Health* 120: 889-907.
- MRC, 2006. Development and evaluating complex interventions: New Guidance. London: Medical Research Council.
- Mueller N, Rojas-Rueda D, Basagaña X, Cirach M, Cole-Hunter T, Dadvand P, Donaire-Gonzalez D, Foraster M, Gascon M, Martinez D, Tonne C, Triguero-Mas M, Valentín A, Nieuwenhuijsen M., 2017. Urban and Transport Planning Related Exposures and Mortality: A Health Impact Assessment for Cities. *Environ Health Perspect*. 125(1):89-96.
- Mueller, N., Rojas-Rueda, D., Cole-Hunter, T., de Nazelle, A., Dons, E., Gerike, R., Goetschi, T., Panis, L.I., Kahlmeier, S. and Nieuwenhuijsen, M., 2015. Health impact assessment of active transportation: a systematic review. *Preventive medicine*, 76, pp.103-114.

- Newton, P. and Newman, P., 2015. Critical connections: The role of the built environment sector in delivering green cities and a green economy. *Sustainability*, 7(7), pp.9417-9443.
- Nieuwenhuijsen MJ, Khreis H, Triguero-Mas M, Gascon M, Dadvand P., 2017. Fifty Shades of Green: Pathway to Healthy Urban Living. *Epidemiology*. 28: 63–71.
- Nieuwenhuijsen MJ, Khreis H. ,2016. Car free cities: Pathway to healthy urban living. *Environ Int*. Jun 5;94:251-262.
- Nieuwenhuijsen MJ., 2016. Urban and transport planning, environmental exposures and health-new concepts, methods and tools to improve health in cities. *Environ Health*. Mar 8;15 Suppl 1:38.
- Oni, T., Sciarrino, F., Adesso, G. and Knight, R., 2016b. Let researchers try new paths. *Nature*, 538, pp.451-453.
- Oni, T., Smit, W., Matzopoulos, R., Adams, J.H., Pentecost, M., Rother, H.A., Albertyn, Z., Behroozi, F., Alaba, O., Kaba, M. and van der Westhuizen, C., 2016a. Urban Health Research in Africa: Themes and Priority Research Questions. *Journal of Urban Health*, 93(4), pp.722-730.
- Portugali, J. & Stolk, E. (Eds.), 2016. *Complexity, Cognition, Urban Planning and Design: Post-Proceedings of the 2nd Delft International Conference (Springer Proceedings in Complexity)* Cham: Springer.
- Prüss-Ustün, A., Wolf J., Corvalán, C., Neville, T., Bos, R. & Neira, M., 2016. Diseases due to unhealthy environments: an updated estimate of the global burden of disease attributable to environmental determinants of health. *J Public Health (Oxf)* 1-12.
- Raworth, K., 2012. A safe and just space for humanity: can we live within the doughnut. *Oxfam Policy and Practice: Climate Change and Resilience*, 8(1), pp.1-26.
- Rockström, J., Steffen, W., Noone, K., Persson, Å., Chapin, F.S., Lambin, E.F., Lenton, T.M., Scheffer, M., Folke, C., Schellnhuber, H.J. and Nykvist, B., 2009. A safe operating space for humanity. *nature*, 461(7263), pp.472-475.
- Rodrigues, D.E., César, C.C., Xavier, C.C., Caiaffa, W.T. and Proietti, F.A., 2015. The place where you live and self-rated health in a large urban area. *Cadernos de saude publica*, 31, pp.246-256.
- Romanelli, C., Cooper, D., Campbell-Lendrum, D., Maiero, M., Karesh, W.B., Hunter, D. and Golden, C.D., 2015. Connecting global priorities: biodiversity and human health: a state of knowledge review. World Health Organisation/Secretariat of the UN Convention on Biological Diversity.
- Rosenberg, C.E., 2002. The tyranny of diagnosis: specific entities and individual experience. *Milbank Quarterly*, 80(2), pp.237-260.
- Russo, F., 2011. Causal webs in epidemiology. *Paradigmi*. 1/2011, pp. 67-97.
- Rutter, H. and Glonti, K., 2016. Towards a new model of evidence for public health. *The Lancet*, 388, p.S7.
- Rydin, Y., Bleahu, A., Davies, M., Dávila, J.D., Friel, S., De Grandis, G., Groce, N., Hallal, P.C., Hamilton, I., Howden-Chapman, P. and Lai, K.M., 2012. Shaping cities for

health: complexity and the planning of urban environments in the 21st century. *Lancet*, 379(9831), p.2079.

Sallis, J.F., Bull, F., Burdett, R., Frank, L.D., Griffiths, P., Giles-Corti, B. and Stevenson, M., 2016. Use of science to guide city planning policy and practice: how to achieve healthy and sustainable future cities. *The Lancet*, 388(10062), pp.2936-2947.

Singh, K., Bjerregaard, P. and Chan, H.M., 2013. Association between environmental contaminants and health outcomes in indigenous populations of the Circumpolar North. *International journal of circumpolar health*, 73, pp.25808-25808.

Steffen, W., Broadgate, W., Deutsch, L., Gaffney, O. and Ludwig, C., 2015. The trajectory of the Anthropocene: The Great Acceleration. *The Anthropocene Review* 2(1): 81–98.

Steffen, W., Crutzen, P.J. and McNeill, J.R., 2007. The Anthropocene: are humans now overwhelming the great forces of nature. *AMBIO: A Journal of the Human Environment*, 36(8), pp.614-621.

Steffen, W., Richardson, K., Rockström, J., Cornell, S.E., Fetzer, I., Bennett, E.M., Biggs, R., Carpenter, S.R., de Vries, W., de Wit, C.A. and Folke, C., 2015. Planetary boundaries: Guiding human development on a changing planet. *Science*, 347(6223), p.1259855.

Sugiyama, T., Ward Thompson, C. and Alves, S., 2009. Associations between neighborhood open space attributes and quality of life for older people in Britain. *Environment and Behavior*, 41(1), 3-21.

UN, 2015a. *World Urbanization Prospects: The 2014 Revision*, (ST/ESA/SER.A/366). United Nations, Department of Economic and Social Affairs, Population Division.

UN, 2015b. *World Population Ageing 2015* (ST/ESA/SER.A/390). United Nations, Department of Economic and Social Affairs, Population Division.

Vlahov D, Caiaffa W. T., 2013. Healthy urban governance and population health. Participatory budgeting in Belo Horizonte, Brazil. In: Sclar ED, Volavka-Close N, Brown P, eds. *The urban transformation: health, shelter and climate change*. London: Taylor & Francis, 2013: 63–81.

Wang, H., Naghavi, M., Allen, C., Barber, R.M., Bhutta, Z.A., Carter, A., Casey, D.C., Charlson, F.J., Chen, A.Z., Coates, M.M. and Coggeshall, M., 2016. Global, regional, and national life expectancy, all-cause mortality, and cause-specific mortality for 249 causes of death, 1980–2015: a systematic analysis for the Global Burden of Disease Study 2015. *The Lancet*, 388(10053), pp.1459-1544.

Ward Thompson, C, Curl, A, Aspinall, P, Alves, S & Zuin, A ., 2014. 'Do changes to the local street environment alter behaviour and quality of life of older adults? The 'DIY Streets' intervention' *British Journal of Sports Medicine*, vol 48, no. NA, NA, pp. 1059-1065., [10.1136/bjsports-2012-091718](https://doi.org/10.1136/bjsports-2012-091718)

Ward Thompson, C, Roe, J & Aspinall, P., 2013. 'Woodland improvements in deprived urban communities: what impact do they have on people's activities and quality of life?' *Landscape and Urban Planning*, vol 118, pp. 79–89 ., [10.1016/j.landurbplan.2013.02.001](https://doi.org/10.1016/j.landurbplan.2013.02.001)

- Ward Thompson, C., 2002. 'Urban Open Space in the 21st Century', *Landscape and Urban Planning* 60 (2), 59-72.
- Ward Thompson, C. Aspinall, P., Roe, J., Robertson, L. & Miller, D., 2016. Mitigating stress and supporting health in deprived urban communities: the importance of green space and the social environment. *International Journal of Environmental Research and Public Health* 13(4): 440; doi:10.3390/ijerph13040440.
- Ward Thompson, C. Roe, J., Aspinall, P., Mitchell, R., Clow, A. & Miller, D., 2012. More green space is linked to less stress in deprived communities: Evidence from salivary cortisol patterns. *Landscape and Urban Planning* 105, pp. 221–229
- WEF, 2017. *The Global Risks Report 2017 12th Edition*, Geneva; World Economic Forum.
- Whitmee, S., Haines, A., Beyrer, C., Boltz, F., Capon, A. G. et al., 2015. Safeguarding human health in the Anthropocene epoch: Report of The Rockefeller Foundation–Lancet Commission on Planetary Health *The Lancet* July 16, [http://dx.doi.org/10.1016/S0140-6736\(15\)60901-1](http://dx.doi.org/10.1016/S0140-6736(15)60901-1)
- WHO, 2007. *Global Age-friendly Cities: A Guide*. Geneva: World Health Organisation Press.
- WHO, 2008a. Commission on Social Determinants of Health *Closing the gap in a generation: Health equity through action on the social determinants of health (Final Report | Executive Summary)* http://whqlibdoc.who.int/hq/2008/WHO_IER_CSDH_08.1_eng.pdf
- WHO, 2008b. *International Public Health Symposium on Environment and Health Research Science for Policy, Policy for Science: Bridging the Gap Madrid, Spain, 20–22 October 2008*. WHO Regional Office for Europe.
- WHO, 2010. Urban Health Equity Assessment and Response Tool (Urban HEART). *Kobe: WHO Centre for Health Development*.
- WHO, 2016a. *Urban green spaces and health*. Copenhagen: WHO Regional Office for Europe.
- WHO, 2016b. *Health as the pulse of the new urban agenda: United Nations conference on housing and sustainable urban development, Quito, October 2016*. World Health Organization.
- WHO, 2017. forthcoming; Health and well-being: Roadmap to support the achievement of the Sustainable Development Goals in the WHO European Region, building on the European Health 2020 policy framework.
- WHO and UN Habitat, 2010. *Hidden Cities: Hidden cities: unmasking and overcoming health inequities in urban settings* Geneva: WHO.
- WHO UNFCCC, 2015. Climate and Health Global Overview.